

Notice of Allowability

Application No.

09/425,592

Examiner

Calvin L Hewitt II

Applicant(s)

YU ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 3 August 2004.
2. ☒ The allowed claim(s) is/are 8 and 13-15.
3. ☒ The drawings filed on 22 October 1999 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date <u>8-3-04</u> . |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |

Status of Claims

1. Claims 8, 13-15 and 23-26 have been examined.

Examiner's Amendment

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Jennifer Brooks on August 2, 2004.

3. The application has been amended as follows-

In claim 8, third full paragraph ("embedding..."), lines 7 and 8, change "so that errorless extraction of the *active hidden data* can be achieved" to "so that errorless extraction of the executable code can be achieved".

Claims 23-26 have been canceled.

Reasons for Allowance

4. Claims 8 and 13-15 have been allowed.

5. The instant application teaches a method and system for hiding data in distributed content. Hiding data in data is old and well-known. For example, Webster's (1913) defines *steganography* as the "art of writing in cipher in characters which are not intelligible except to persons who have the key".

Steganography is further defined as,

Hiding a secret message within a larger one in such a way that others can not discern the presence or contents of the hidden message. For example, a message might be hidden within an image by changing the least significant bits to be the message bits [Chaffing and Winnowing: Confidentiality without Encryption, Ronald L. Rivest, MIT Lab for Computer Science, 1998-03-22].

Rhoads teaches hiding data in data. Specifically, Rhoads teaches protecting content using imperceptible data such as embedded watermarks in content to track and control its use ('214, column/line 41/10-45/40). The present invention is also dedicated to the errorless extraction of data. Moskowitz teaches controlling the errorless extraction of data based on hidden data ('569, abstract; column 6, lines 36-67; column 7, lines 1-21; column 8, lines 1-19; column/line 8/56-9/4), while Barton applies error correction to the extraction of hidden data

such as a watermark (figure 2; column 5, lines 54-67; column/line 7/55-8/27).

However, neither reference singly nor in combination teach the method and system of the present invention as it recites embedding and extracting data using singular points, masker points and maskee points, where singular points are defined as $I(i)$ defines as $\text{sign}(I(i)) = -\text{sign}(I(i-1))$ and $\text{sign}(I(i)) = -\text{sign}(I(i+1))$, a masker point is defined as a point with an intensity value larger than a threshold δ , such that $\text{amp}(I(i)) > \delta$ and a maskee point $I(i^k)$ is defined as a point that is under the mask of a masker point $I(i)$ such that $\text{amp}(I(i^k)) < \text{mask}(\text{amp}(I(i)))$.

6. Any comments considered necessary by Applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:
- "CRL coding guards copyrighted images", Clarke, Peter

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- Cox et al. disclose extracting digital watermarking from subregions of the data

8. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Calvin Loyd Hewitt II whose telephone number is (703) 308-8057. The Examiner can normally be reached on Monday-Friday from 8:30 AM-5:00 PM.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, James P. Trammell, can be reached at (703) 305-9768.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
c/o Technology Center 2100
Washington, D.C. 20231

or faxed to:

(703) 305-7687 (for formal communications intended for entry and after-final communications),

or:

(703) 746-5532 (for informal or draft communications, please label "PROPOSED" or "DRAFT")

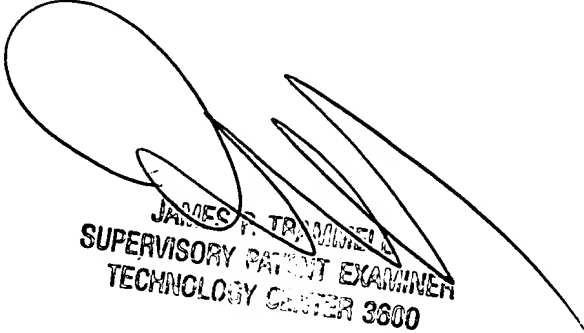
Hand-delivered responses should be brought to Crystal Park 5, 2451 Crystal Drive, 7th Floor Receptionist.

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Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-1113.

Calvin Loyd Hewitt II

August 3, 2004



JAMES T. TRAMMELL
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600